

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

CALLPOD, INC.

v.

T TECHNOLOGY, INC., et al.

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Case No. 2:11-CV-326-JRG-RSP

**CLAIM CONSTRUCTION
MEMORANDUM AND ORDER**

On December 13, 2012, the Court held a hearing to determine the proper construction of the disputed claim terms in U.S. Patent No. 7,707,250. After considering the arguments made by the parties at the hearing and in the parties' claim construction briefing, the Court issues this Claim Construction Memorandum and Order.

APPLICABLE LAW

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *See id.* at 1313. *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term's context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can also aid in determining the claim's meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term's meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficos N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor's lexicography governs. *Id.* The specification may also resolve ambiguous claim terms “where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex, Inc.*, 299 F.3d at 1325. But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. The prosecution history is another

tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”).

Although extrinsic evidence can be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.*

DISCUSSION

1. Construction of “In a Mobile Environment”

Term	Plaintiff’s Proposal	Defendants’ Proposal
“in a mobile environment” Claim 32	The preamble is not limiting. If the preamble is found to be limiting: “in an environment where the location of the participants can change during use”	The preamble is limiting. “an environment in which all devices are moveable without limitations related to communications connections and power connections”

The Court finds that the preamble term **“in a mobile environment” is not a claim limitation.** The determination of whether a preamble term should be treated as a claim limitation is “resolved only on review of the entire[] . . . patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 239 F.3d 801, 808 (Fed. Cir. 2001) (quoting *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989)). Federal Circuit cases addressing the issue provide helpful guidance on how the Court should make this determination. *See Am. Med. Sys., Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1358-59 (Fed. Cir. 2010) (collecting cases). In general, a preamble term is found to be a claim limitation if: (1) the term “recites essential structure or steps;” (2) the term “is necessary to give life, meaning, and vitality to the claim;” or (3) the term was added to distinguish the prior art. *Id.* at 1358. A preamble term is generally not found to be a claim limitation if: (1) “the claim body describes a structurally complete invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed invention;” (2) the term is “merely duplicative of the limitations in the body of the claim;” or (3) the term “merely gives a descriptive name to the set of limitations in the body of the claim that completely set forth the invention.” *Id.* at 1358-59.

CallPod argues that the preamble term “in a mobile environment” is not a claim limitation because the body of the claims set forth a structurally complete apparatus, and the preamble term merely states a purpose or intended use of the invention. (Op. Br. at 5-6, Dkt. No. 86.) Defendants argue the preamble term is a claim limitation because it is used in the specification to distinguish the invention from the prior art, and the specification criticizes prior art wired teleconferencing systems for their lack of “mobility.” (Resp. Br. at 9, Dkt. No. 98.) In particular, Defendants argue that “the specification makes clear that the ‘wireless communications connection device’ of the present invention’ departs from the traditional wired framework by operating wirelessly.” (*Id.* at 10.)

The Court finds that the preamble term “in a mobile environment” is not a claim limitation. The body of the claims set forth a structurally complete apparatus. Moreover, treating the preamble term “in a mobile environment” as a separate limitation would be duplicative of other limitations in the body of the claims that are directed to the “mobile” aspect of the invention. For example, the asserted claims already require that each “local participant” of the claimed apparatus use a “wireless headset” that interfaces with the claimed apparatus by way of a “local wireless interface.” *See* ‘250 Pat., claim 32. Finally, Defendants do not identify any evidence that supports adding the limitations relating to “communications connections” and “power connections” mentioned in Defendants’ proposed construction.

2. Construction of “Simultaneous Two-Way, Full-Duplex Communications”

Term	Plaintiff’s Proposal	Defendants’ Proposal
“simultaneous two-way, full duplex communications” Claim 32	“transferring of signals between two devices in both directions which allows participants to talk and hear all other participants at the same time”	“communication between a plurality of devices in which each device can transmit and receive at the same time over a discrete dedicated communications channel which is not shared with any other devices”

The Court finds that the term **“simultaneous two-way, full duplex communications”** means **“time division duplex communications.”** The central dispute between the parties is whether the requirement of “simultaneous two-way, full duplex communications” is met when the local wireless interfaces communicate using Bluetooth.

Defendants argue that “the patentee disclaimed time division multiplexing and amended the claims to require ‘full-duplex’ communications” in response to rejections based upon the Jukarainen and Punj references. According to Defendants, the patentee disclaimed a construction of “full duplex” that encompasses half-duplex communications, such as time division multiplexing, because: (1) the Jukarainen reference disclosed a system that uses Bluetooth; (2) it was known that Bluetooth uses time division multiplexing; and (3) the patentee argued that Jukarainen “only teach[es] or disclose[s] half-duplex communications” (Resp. Br. at 21-22.)

Plaintiff argues that “it is clear from the intrinsic record that in the context of the ‘250 [patent that] ‘full-duplex’ refers to a system, including a ‘mixer’ and multiple wireless communication devices[,] which allow participants to talk and hear all other participants at the the same time.” (Reply Br. at 3-4, Dkt. No. 90.) Plaintiff argues that the patentee “did not disclaim wireless communications which allow participants to talk and hear all other participants at the same time,” such as time-division multiplexing. (Reply Br. at 3-4, and 9.) Plaintiff

explains that Jukarainen only “discloses a method of controlling a wireless conference telephone system or a corresponding audio system using the Bluetooth wireless protocol and merely mentions in passing the ability to connect audio units to an ongoing audio call without disclosing any details about how the audio conference is established.” (*Id.* at 3.) In other words, Jukarainen did not disclose using Bluetooth communications to transmit audio between the participants. (*See id.* at 4.) Moreover, Plaintiff argues that because “Jukarainen does not include the claimed [audio] mixer . . . or another method of processing and routing the audio signals in a manner that would suggest that the participants could talk and hear all other participants at the same time,” Jukarainen “does not disclose ‘full-duplex communications’” (*Id.*) Finally, Plaintiff argues that a construction that excludes Bluetooth communications would be “ridiculous” because the use of Bluetooth communications is described in the preferred embodiment and is explicitly claimed. (*Id.*)

Analysis of the Prosecution History

The Court agrees with Plaintiff that the patentee did not disclaim the use of time division multiplexing or Bluetooth communications to provide “simultaneous two-way, full-duplex communications.” The relevant remarks made by the patentee during prosecution are reproduced below:

Applicant respectfully submits that neither Jukarainen nor Punj disclose a method or apparatus for wireless conferencing and sharing audio content using an electronic device having audio capabilities as claimed.

For example, the Examiner states that Jukarainen discloses a method for wirelessly conferencing and sharing content and states that Jukarainen inherently teaches an audio unit provided to receive, mix, and clean audio signals. Applicant respectfully disagrees. Applicant submits that Jukarainen discloses controlling a communication system, not creating a conference communication using wireless electronic devices having audio capabilities, as in the present disclosure. Jukarainen may control or tell a device to

create a communication link, *but it does not disclose how the communication link is created*. Accordingly, within the four corners of Jukarainen, and even within reasonable inference, *Jukarainen does not teach, inherently or otherwise, anything about an audio unit creating the communication link*.

Furthermore, Punj relates to a physical network in a building and content sharing of data over nodes hardwired within that physical building. Again, *it does not disclose creating a communication link using an electronic device having audio capabilities*

In addition, neither Jukarainen nor Punj disclose a method or apparatus for wirelessly conferencing and sharing audio content wherein the wireless conferencing occurs over simultaneous, two-way, full-duplex communication channels. Jukarainen and Punj only teach or disclose half-duplex communications and certainly do not disclose simultaneous, two-way, full-duplex conferencing.

(3/23/2009 Amendment at 15-16, Dkt. No. 98-7 (emphasis added).)

As can be seen in the full context of the patentee's remarks, the patentee's statements cannot operate as a disclaimer of Bluetooth communications (or time division multiplexing) from the scope of the claim term because the patentee stated that Jukarainen and Punj did not disclose what type of communication link was used in either reference. Moreover, the patentee's statement that Jukarainen and Punj "do not disclose simultaneous, two-way, full-duplex conferencing" is clearly based upon the patentee's contention that Jukarainen and Punj do not have the audio mixing equipment necessary to support full-duplex communications. Contrary to Defendants' position, this statement cannot be based upon the patentee's assessment of whether a particular type of communication link supports "full-duplex" or "half-duplex" communications because the patentee clearly thought that Jukarainen and Punj did not identify any particular type of communication link.

The Court's interpretation of the prosecution history is confirmed by the fact that at the time "full-duplex" was added to the independent claims, the patentee did not cancel dependent claims that explicitly recited using Bluetooth communications. (*See, e.g.*, 3/23/2009 Amendment

at 3, Dkt. No. 98-7 (claim 3 reciting “wherein the first, local wireless interface, the second local wireless interface, and the third local wireless, interface utilize a Bluetooth protocol).)

Meaning of the Term

Turning to the language of the claims, claim 32 requires that the claimed apparatus provide “two-way, full duplex communications” between the first and second local participants during wireless non-call conferencing, and “two-way, full duplex communications” between the first local participant, the second local participant, and the remote participant during wireless conferencing. Dependent claim 34 adds the requirement that the wireless interfaces of the claimed apparatus use the Bluetooth protocol. The plain reading of the claims indicates that Bluetooth communications can be used to provide “two-way, full-duplex communications.”

The specification provides further evidence that Bluetooth communications are within the scope of “two-way, full-duplex communications”:

As opposed to prior art audio conferencing systems, the wireless communications connection device of the present invention operates in a *full duplex mode* with respect to the slave wireless audio communications devices (26, 27, 28, 36, 37, 38, 46, 47 and 48). In this regard, each slave wireless audio communications device (26, 27, 28, 36, 37, 38, 46, 47 and 48) communicates with the mixer 1 over an independent communication channel that is not shared with any other slave wireless audio communications device (26, 27, 28, 36, 37, 38, 46, 47 and 48). Moreover, in a conference call or wireless non-call conferencing configuration, each slave wireless audio communications device (26, 27, 28, 36, 37, 38, 46, 47 and 48) communicates with the wireless controllers 2, 3 and 4 using a Bluetooth SCO link in the preferred embodiment to maximize the quality of the voice communications.

‘250 Pat. at 7:56-8:3.

Defendants correctly assert (and Plaintiff does not dispute) that Bluetooth uses time-division multiplexing of signals between a master unit and a slave unit on the same channel based on an allocation of time slots. Because the master unit and the slave unit cannot transmit

at the same time, it is true that Bluetooth is not “full-duplex,” as that term is ordinarily used in the art. (See The IEEE Wireless Dictionary 29, Dkt. No. 98-7 (defining full-duplex as a “communication system in which a device in normal operation is transmitting and receiving at the same time”). However, the patentee acted as his own lexicographer by applying the qualifier “full-duplex” clearly and consistently to Bluetooth communications. Thus, in the context of the ‘250 patent, “full-duplex” communications is used to refer to “time division duplex communications.”

Defendants’ construction is rejected because it is strictly limited to full-duplex communications. On the other hand, Plaintiff’s construction is overly broad because it expands “full-duplex” to cover any type of multiplexed communication, which is not supported by the intrinsic record.

3. Construction of “Audio Interface”

Term	Plaintiff’s Proposal	Defendants’ Proposal
“audio interface” (claim 32)	“an interface between two components to exchange representations of sound waves”	“a hardware interface between a respective wireless controller and the audio mixer to exchange digital audio signals”

The Court finds that the term **“audio interface”** means **“a circuit that couples a wireless interface to the audio mixer and conveys an audio signal.”**

Plaintiff contends that Defendants’ construction improperly reads in limitations from the specification. In particular, Plaintiff objects to Defendants’ construction to the extent that it would require three separate physical connections between a wireless controller and an audio mixer. (Op. Br. at 14.) Plaintiff argues that this would exclude a disclosed embodiment where there is a single wireless controller connected by one physical connection to an audio mixer. (*Id.*) Defendants contend that the specification describes a physical connection between each

separate wireless controller and the audio mixer. (Resp. Br. at 15-16.) Defendants also argue that Plaintiff disclaimed “a single wireless controller communicating locally with three devices.” (*Id.* at 16.)

There does not appear to be any material difference between the parties’ proposed constructions other than whether claim 32 requires only a single “audio interface” between the wireless controllers and the audio mixer (Plaintiff’s position), or whether claim 32 requires a separate “audio interface” between each wireless controller and the mixer (Defendants’ position). Based on the plain language of claim 32, the Court finds that there must be a separate audio interface between each wireless controller and the audio mixer. Claim 32 recites in relevant part:

an audio mixer, disposed in the electronic device, that receives an audio signal from an audio input from *each of at least three audio interfaces*, mixes and cleans the audio inputs, and provides equalized audio output to *each of the at least three audio interfaces*

Furthermore, Claim 32 expressly requires that each wireless interface be connected to a specific, associated audio interface of the “at least three audio interfaces”:

a first local wireless interface between a first audio interface of the at least three audio interfaces and a wireless headset of a first local participant;

a second local wireless interface between a second audio interface of the at least three audio interfaces and a wireless headset of a second local participant; and

a third local wireless interface between a third audio interface of the at least three audio interfaces and a remote communications means

When the “claim language is clear on its face,” a court’s consideration of the other intrinsic evidence is “restricted to determining if a deviation from the clear language of the claims is specified.” *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001). A deviation from the clear language of the claims may be appropriate, for

example, when the patentee has acted as a lexicographer, or when claim scope was relinquished during prosecution. *Id.* The general rule that the specification may be used as an aid to interpret, but not change, the meaning of the claim language is well established, and was recognized by the Supreme Court as early as 1886:

Some persons seem to suppose that a claim in a patent is like a nose of wax, which may be turned and twisted in any direction, by merely referring to the specification, so as to make it include something more than, or something different from, what its words express. The context may, undoubtedly, be resorted to, and often is resorted to, for the purpose of better understanding the meaning of the claim; but not for the purpose of changing it, and making it different from what it is. The claim is a statutory requirement, prescribed for the very purpose of making the patentee define precisely what his invention is; and it is unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms. This has been so often expressed in the opinions of this court that it is unnecessary to pursue the subject further.

White v. Dunbar, 119 U.S. 47, 51-52 (1886).

Here, the plain meaning of the claim language requires that there be at least three audio interfaces. The fact that the specification describes embodiments with less than three audio interfaces cannot be used to change the plain meaning of the claim language. Given this result, the Court finds it unnecessary to consider Defendants' alternative argument that the patentee disclaimed a single audio interface embodiment.

Before the hearing, the Court provided the parties with a proposed construction that the term means "a circuit that couples a wireless interface to the audio mixer and conveys an audio signal." Aside from the dispute of whether claim 32 requires one or three "audio interfaces," the parties did not offer any specific objections to the proposed construction. Accordingly, the Court adopts its proposed construction as its final construction. The Court finds that it is not necessary

to incorporate language concerning the requirement of at least three “audio interfaces” because that limitation is present in the surrounding claim language.

4. Construction of “[First, Second, Third] Local Wireless Interface”

Term	Plaintiff’s Proposal	Defendants’ Proposal
“[first, second, third] local wireless interface” Claim 32	[first, second, third] “wireless interface between local mobile transceivers not involving the cellphone-to-base station features of the cellular network”	[first, second, third] “local wireless hardware interface in the electronic device comprising a separate amplifier and a separate antenna”

The Court finds that the terms **“first local wireless interface,” “second local wireless interface,” and “third local wireless interface”** mean **“an electronic circuit capable of transmitting and receiving wireless communications excluding communications relayed through a cellular telephone base station.”**

Plaintiff argues that Defendants’ construction improperly limits the claim to a preferred embodiment where each “local wireless interface” has a separate amplifier and antenna. (Op. Br. at 8.) Plaintiff contends that a proper construction should exclude transceivers “involving the cellphone-to-base station features of the cellular network,” based on a definition of “local wireless interface” found in the specification of U.S. Patent No. 7,742,758 (which was incorporated by reference in the ’250 patent):

As used herein, a local wireless interface means a wireless interface between local mobile transceivers. It does not involve the cellphone-to-base station features of the cellular network.

(Op. Br. at 8 (quoting ‘758 Pat. at 2:25-35).)

Defendants contend that the specification requires that each local wireless interface have a separate amplifier and antenna. (Resp. Br. at 10-11.) In particular, Defendants cite the following portion of the specification:

Wireless controllers 2, 3, and 4 in the preferred embodiment of the present invention are Bluetooth radio devices each having a local wireless interface 22, 32, and 42, respectively. Local wireless interfaces 22, 32, and 42 further comprise RF amplifiers 22, 33, and 43, respectively, as well as antennas 24, 34, and 44, respectively, for transmitting and receiving wireless communications.

(*Id.* at 10-11 (quoting ‘250 Pat. at 4:53-59).) Defendants also argue that the patentee limited the claims during prosecution to require three separate local wireless interfaces, each with a separate physical antenna. (*Id.* at 12.)

Before the hearing, the Court proposed to construe the terms to mean “an electronic circuit capable of transmitting and receiving wireless communications excluding communications relayed through a cellular telephone base station.” The Court also indicated that the designations of “first,” “second,” and “third” mean that there are three separate and distinct (i.e. not shared) electronic circuits. Plaintiff objected to construing the term to require three separate circuits.

First, the Court agrees with Plaintiff that the patentee defined the term “local wireless interface” to exclude communications with a cellular telephone base station. *See* ‘758 Pat. at 2:25-35. Accordingly, this aspect of Plaintiff’s construction is incorporated into the Court’s construction.

The Court also finds that plain language of claim 32 requires three separate and distinct “local wireless interfaces.” As discussed in the construction of “audio interface” above, the Court has found that claim 32 requires three separate “audio interfaces.” Claim 32 also states that each “local wireless interface” is disposed between a specified audio interface and a specified local or remote participant:

a first local wireless interface between a first audio interface of the at least three audio interfaces and a wireless headset of a first local participant;

a second local wireless interface between a second audio interface of the at least three audio interfaces and a wireless headset of a second local participant; and

a third local wireless interface between a third audio interface of the at least three audio interfaces and a remote communications means for communicating with a remote participant

Thus, in addition to reciting a “first,” a “second,” and a “third” “local wireless interface,” the claimed arrangement of three “local wireless interfaces” disposed between two sets of separate devices (“audio interfaces” on one side, and “wireless headsets” or “remote communications means” on the other) indicates that there are three separate “local wireless interfaces.”

Finally, claim 32 recites “an antenna of the first local wireless interface, the second local wireless interface, and the third local wireless interface.” This claim language is more consistent with the notion that the “local wireless interfaces” are separate and distinct structures, as opposed to being different communication pathways provided by a single structure, as advocated by Plaintiff. Although Plaintiff is correct that the specification does disclose an embodiment where there is a single “physical local wireless interface,” the Court finds that the plain language of the claim controls, much like the similar argument raised by Plaintiff in connection with the “audio interface” term above.

The Court rejects Defendants’ proposal that a “local wireless interface” “compris[es] a separate amplifier and a separate antenna.” Defendants appear to have included this language to address the same concern raised by the antenna claim term (“an antenna of the first local wireless interface, the second local wireless interface, and the third local wireless interface”). Because that dispute is resolved by the Court’s construction of the antenna claim term (discussed below), it would be redundant to include Defendants’ proposed language in the construction of the “local wireless interface” term.

5. Construction of “An Antenna of the First Local Wireless Interface, the Second Local Wireless Interface, and the Third Local Wireless Interface”

Term	Plaintiff’s Proposal	Defendants’ Proposal
“an antenna of the first local wireless interface, the second local wireless interface, and the third local wireless interface” Claim 32	an antenna of the first “wireless interface between local mobile transceivers not involving the cellphone-to-base station features of the cellular network,” the second “wireless interface between local mobile transceivers not involving the cellphone-to-base station features of the cellular network,” and the third “wireless interface between local mobile transceivers not involving the cellphone-to-base station features of the cellular network”	“a separate and discrete physical antennae of the first local wireless interface, a separate and discrete physical antennae of the second local wireless interface, and a separate and discrete physical antennae of the third local wireless interface”

The Court finds that the claim term means **“a separate physical antenna of the first local wireless interface, a separate physical antenna of the second local wireless interface, and a separate physical antenna of the third local wireless interface.”**

Plaintiff argues that this dispute is essentially the same as the dispute over the “local wireless interface” term. (Op. Br. 10.) Plaintiff argues that term “antenna” does not require construction, and that its plain and ordinary meaning is “a component or components for transmitting and receiving wireless communications.” (*Id.*) Accordingly, Plaintiff’s proposed construction merely incorporates Plaintiff’s proposed construction for the local wireless interface term.

Defendants argue that the central dispute is whether the local wireless interfaces may share a single antenna, or whether each local wireless interface must have its own antenna. (Resp. Br. at 13.) Defendants concede that the specification discloses both arrangements, but argue that the claim language is ambiguous on its face and can be read to claim one antenna or three antennas. (*Id.* at 13.) Defendants also argue that the prosecution history compels a construction that the term requires three antennas. (*Id.* at 13-14.) Finally, although the parties

previously agreed that the word “antenna” itself requires no construction, Defendants contend that Plaintiff’s proposed plain and ordinary meaning of the term is overly broad. (*Id.* at 14.)

Claim 32 recites in part:

An apparatus for wirelessly conferencing and sharing content . . .
using an electronic device having audio capabilities, such
apparatus comprising: . . .

*wherein an antenna of the first local wireless interface, the second
local wireless interface, and the third local wireless interface is
disposed within the electronic device having audio capabilities.*

Plaintiff argues that the phrase claims only a single antenna because the claim recites that “an antenna . . . is disposed” as opposed to “are disposed.” However, the normal meaning of the article “a” in a patent claim is “one or more.” Therefore, the Court believes that this usage of “is” is also consistent with reading the phrase to require three antennas, as in: “an antenna of the first local wireless interface, an antenna of the second local wireless interface, and an antenna of the third local wireless interface is disposed . . .” The Court agrees with Defendants that the claim language is ambiguous on its face, and can be read to require either (1) a single antenna shared by the local wireless interfaces, or (2) three separate antennas.

Turning to the specification, it teaches that (in the preferred embodiment) each local wireless interface has its own respective antenna:

Wireless controllers 2, 3 and 4 in the preferred embodiment of the present invention are Bluetooth radio devices each having a local wireless interface 22, 32, and 42, respectively. Local wireless interfaces 22, 32 and 42 further comprise RF amplifiers 23, 33 and 43, respectively, as well as antennas 24, 34 and 44, respectively, for transmitting and receiving wireless communications.

‘250 Pat. at 4:53-59. However, the specification also suggests that, in some instances, the separate antennas may be replaced by a single, shared antenna of the “electronic audio device”:

In some embodiments of the present invention, when the wireless communications connection device is disposed within another

electronic audio device already having an antenna, such as a cellular phone or a computer, antennas 24, 34 and 44 may be replaced by the antenna of such electronic audio device.

‘250 Pat. at 4:59-64. The specification does not resolve the ambiguity in the claim language because it discloses both possibilities, and does not provide any clues to determining which arrangement is claimed.

“Where there is an equal choice between a broader and a narrower meaning of a claim, and there is an enabling disclosure that indicates that the applicant is at least entitled to a claim having the narrower meaning,” the public notice function of the claims requires that the court adopt the narrower meaning. *Athletic Alts., Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996). In this instance, the Court is persuaded that there is an enabling disclosure of both embodiments, and therefore the patentee is entitled to at least the narrower meaning of the claim term. The Court finds that requiring three separate and distinct antennas is the narrower construction. The specification explicitly teaches that using three antennas is preferred, and the specification describes the alternative shared antenna arrangement only in permissive terms. Therefore, the claim language and the specification support construing this claim term to require three separate and distinct antennas.

Defendants contend that the patentee disclaimed a single, shared antenna when the claim term was amended to overcome the examiner’s rejection of the claims over the Jukarainen reference. However, the Court agrees with Plaintiff that the patentee did not distinguish the Jukarainen reference on the basis of the number of antennas, and instead distinguished Jukarainen on the grounds that the antennas were not contained in a single electronic device:

The closest art of record, Jukarainenm discloses that the Bluetooth modules contained in each of three separate conference audio units (B1-B3) (which Examiner equates to Applicant’s claimed first, second and third wireless interfaces) each may have an integrated antenna (col. 4, lines 10-17). However, such antennae are

respectively located in three separate, external conference audio units, and not within a single electronic device having audio capabilities.

(10/12/2009 Amendment at 15, Dkt. No. 88-8 (emphasis in original).)

6. Construction of “A [First, Second] Communication Path to the [First, Second] Local Participant and a Third Communication Path to the Remote Participant Are All Discrete”

Term	Plaintiff’s Proposal	Defendants’ Proposal
“a [first, second] communications path to the [first, second] local participant, and a third communications path to the remote participant are all discrete” Claim 32	a [first, second] “path for communicating” to the [first, second] “participant using a device paired with the device having audio capabilities,” and a third “path for communicating” to the “participant not using a device paired with the device having audio capabilities” are all “independent logical connections”	“The routes propagated by audio signals from the audio mixer to each of the first local participant, the second local participant, and the remote participant are distinct, separate physical wireless channels that are not shared”

The Court finds that the term means **“a first time division duplexed channel to the first local participant, a second time division duplexed channel to the second local participant, and a third time division duplexed channel to the remote participant are all separate.”**

The parties’ dispute focuses on the meaning of “communications path” and “discrete.” Plaintiff contends that a “communications path” should be given its full, plain and ordinary meaning of a “path for communicating.” (Op. Br. at 28.) Plaintiff argues that “discrete” means that each pathway is an “independent logical connection.” (*Id.*) Finally, Plaintiff argues that portions of Defendants’ construction are confusing (such as “the routes propagated by audio signals”), and that the construction improperly imposes a requirement that there be three wireless controllers. (*Id.* at 28-29.)

Defendants argue that “path for communicating” is circular and unhelpful, and that the specification clearly defines the communications path as a wireless channel. (Resp. Br. at 27.) Relying on extrinsic evidence definitions of “discrete” and the patentee’s alleged disclaimer of a

single wireless controller using time-division multiplexing, Defendants propose that “discrete” requires “distinct, separate physical wireless channels that are not shared.” (*Id.* at 27-28.)

Claim 32 recites in part:

wherein a first communication path to the first local participant, a second communication path to the second local participant, and a third communication path to the remote participant are all discrete . . .

The specification defines a “communication path” as a “duplex channel”:

As used herein, a channel (or “communication path”) within a piconet means a duplex channel. As such, a channel includes both inbound and outbound paths.

‘250 Pat. at 5:59-62. The Court agrees with Defendants that the patentee defined “communication path” to mean a “duplex channel.”

Turning to “discrete,” the summary of the invention provides some illumination as to the meaning of “discrete”:

wherein the communication paths to the first local participant, second local participant and the remote participant *are all discrete, so as to permit simultaneous two-way (incoming and outgoing) communications* between each participant during wireless conferencing between the local participants and during wireless conferencing between the local participants and the remote participant, *and so as to permit simultaneous one-way communications* between an audio and/or video content source and each local participant during wireless sharing of audio and/or video content between the local participants, and wherein the audio and/or video content source is included within the remote communication means.

‘250 Pat. at 2:60-3:5 (emphasis added). The specification also emphasizes that the communications channels are not shared by any of the participants’ devices:

As opposed to prior art audio conferencing systems, the wireless communications connection device of the present invention operates in a full duplex mode with respect to the slave wireless audio communications devices (26, 27, 28, 36, 37, 38, 46, 47 and 48). In this regard, *each slave wireless audio communications*

device (26, 27, 28, 36, 37, 38, 46, 47 and 48) communicates with the mixer 1 over an independent communication channel that is not shared with any other slave wireless audio communications device (26, 27, 28, 36, 37, 38, 46, 47 and 48). Moreover, in a conference call or wireless non-call conferencing configuration, each slave wireless audio communications device (26, 27, 28, 36, 37, 38, 46, 47 and 48) communicates with the wireless controllers 2, 3 and 4 using a Bluetooth SCO link in the preferred embodiment to maximize the quality of the voice communications.

‘250 Pat. at 7:56-8:3 (emphasis added). The specification’s teaching that communication paths are not shared suggests that “discrete” means that each channel is separate. This conclusion is consistent with Defendants’ proffered extrinsic evidence dictionary definitions of the word “discrete.” (See Resp. Br. at 27.) Given the parties’ prior dispute over the meaning of “full duplex,” the Court’s construction makes clear that a time-division duplexed channel is encompassed by the term “communication path.”

The Court’s construction does not rely Defendants’ argument that the patentee disclaimed a single wireless controller using a time-division multiplexing scheme. That argument was considered and rejected in the Court’s consideration of “simultaneous two-way, full-duplex communications,” which is discussed above.

7. Construction of “Audio Input” (at Col. 14, line 14)

Term	Plaintiff’s Proposal	Defendants’ Proposal
“audio input(s)” Claim 32, at col. 14, line 14	“interconnect for receiving representations of sound waves” Not indefinite.	Indefinite.

The parties dispute the meaning of the term “audio input.” At the claim construction hearing, the parties announced their agreement that “audio input,” as it is used at column 14, line 12, means “a hardware interconnect for receiving digital audio signals.” The only remaining dispute regarding “audio input(s)” is the meaning of the second instance of the term in claim 32,

at column 14, line 14. (*See* Dkt. No. 100 at 2.) Defendants contend that the term is indefinite.

(*Id.*)

Claim 32 recites in relevant part:

an audio mixer, disposed in the electronic device, that receives an audio signal from an *audio input*¹ from each of at least three audio interfaces, mixes and cleans the *audio inputs*², and provides an equalized audio output to each of the at least three audio interfaces

The Court finds that the term **“audio input,”** as it appears at column 14, line 14 means **“digital audio signal(s).”** The specification explains that an audio mixer is “programmed as digital signal processor,” and that the audio mixer is “programmed to receive digital audio input signals from the wireless controllers . . . through audio interfaces . . . to digitally mix, clean and amplify and/or de-amplify the audio input signals.” ‘250 Pat. at 42-46. Therefore, the claim language, when read in the context of the specification, is clear that the second reference to “audio input(s)” refers to the digital audio signals themselves, and not the hardware interconnect by which the digital audio signals are provided to the mixer.

8. Construction of “Mixes”

Term	Plaintiff’s Proposal	Defendants’ Proposal
“mixes” Claim 32	“combines two or more input signals to create output signal(s)”	“summing all audio inputs received, dividing the sum by the number of audio inputs received, and providing the divided sum as a single audio output to each device that provided an audio input”

The Court finds that the term **“mixes”** means **“summing all audio inputs received, dividing the sum by the number of audio inputs received, and providing the divided sum as a single audio output to each device that provided an audio input.”**

¹ ‘250 Pat. at 14:12.

² ‘250 Pat. at 14:14.

Plaintiff argues that its construction reflects the plain and ordinary meaning of “mixes,” and argues that Defendants’ proposed construction improperly imports limitations from the specification. (Op. Br. at 15-16.) Defendants argue that their construction is drawn directly from the specification, where the patent provides a definition of the term. (Resp. Br. at 17-18.) Defendants observe that there is no language in the patent suggesting that the definition only applies to a particular embodiment. (*Id.* at 18.)

The Court finds that the patentee acted as his own lexicographer and defined the term “mixes” in the specification. The relevant passage of the specification states:

Within the mixer 1, the audio signals from the slave wireless audio communications devices . . . are mixed, cleaned, amplified and/or de-amplified, and an equalized output provided to each slave wireless audio communications device As used herein, mixing means summing the audio input from the slave wireless audio communications devices . . . , dividing the sum by the number of slave wireless audio communications devices . . . , and providing an equalized audio output to each of the slave wireless audio communications devices

‘250 Pat. at 7:44-55. The Court agrees with Defendants’ contention that there is nothing in the specification that suggests that patentee intended for the definition to only apply in the context of a particular embodiment. Accordingly, the Court adopts Defendants’ proposed construction.

9. Construction of “Cleans”

Term	Plaintiff’s Proposal	Defendants’ Proposal
“cleans” Claim 32	“rids of something unwanted in the signal”	“removing all non-voice audio from a received audio signal”

The Court finds that the term **“cleans”** means **“reducing distortion in an audio signal.”**

Plaintiff contends that the plain and ordinary meaning of “cleans” is “rids of something unwanted in the signal.” (Op. Br. at 16.) Plaintiff argues that there is no evidence to support requiring the removal of “all non-voice audio,” and observes that Defendants primarily rely on a

non-technical dictionary to support their construction. (*Id.*) Defendants contend that the specification provides no indication of what is meant for “audio inputs” or “audio input signals” to be cleaned, and that all the specification teaches is that the mixer performs the cleaning. (Resp. Br. at 18-19.) Defendants note that both parties’ constructions are somewhat consistent with the Webster’s dictionary definition of “clean”: “to rid of dirt, impurities, or extraneous matter.” (*Id.* at 19 (quoting Webster’s Ninth New Collegiate Dictionary 247 (1985).) Defendants suggest that the actual dispute is the extent of the removal required, and that anything less than full removal of “something unwanted” would not constitute being cleaned. (*Id.*)

The Court agrees with the parties that the intrinsic evidence is not particularly helpful in resolving this dispute. The portions of the specification cited by Plaintiff merely recite the fact that the mixer “cleans” audio signals, without explaining what it means for the signals to be cleaned. However, the Court does agree with Plaintiff that the plain and ordinary meaning of “cleans” does not require the complete removal of “something unwanted.” Moreover, there is no evidence that supports Defendants’ requirement that “all non-voice audio” must be removed.

Prior to the claim construction hearing, the Court offered to the parties its proposed construction that “cleans” means “reducing distortion present in an audio signal.” The parties did not offer any argument on this term, and did not identify any error in the proposed construction. Accordingly, the Court adopts its proposed construction as its final construction of this term.

10. Construction of “Wireless Non-Call Conferencing”

Term	Plaintiff’s Proposal	Defendants’ Proposal
“wireless non-call conferencing” Claim 32	“conference between ‘participants using a device paired with the device having audio capabilities’”	“a conference initiated, conducted, and completed without inclusion of a remote participant”
“wireless non-call conferencing between the first local participant and the second local participant” Claim 32	“conference between ‘participants using a device paired with the device having audio capabilities’” between the first “participant using a device paired with the device having audio capabilities” and the second “participant using a device paired with the device having audio capabilities”	“a conference initiated, conducted, and completed without inclusion of a remote participant” between the first local participant “using a device paired with the electronic device having audio capabilities” and the second local participant “using a device paired with the electronic device having audio capabilities”

The Court finds that **“wireless non-call conferencing”** means **“a capability of wireless conferencing among local participants only.”**

Plaintiff argues that “wireless non-call conferencing” involves conferencing among the local participants only. (Op. Br. at 23.) Plaintiff’s object to Defendants’ proposed construction because it includes additional limitations relating to how the non-call conference must be “initiated, conducted and completed” without a remote participant, which Plaintiff contends is not supported by the intrinsic record. (*Id.*) Plaintiff contends that Defendants’ construction excludes a situation where local participants continue in conference after a remote participant hangs up. (*Id.*) Defendants agree that non-call conferencing involves solely the local participants. (Resp. Br. at 23-24.) Defendants do not offer any explanation for their proposed requirement that such a conference be “initiated, conducted, and completed without inclusion of a remote participant.”

The Court agrees with Plaintiff that Defendants’ construction improperly excludes “seamlessly switching between the conference call, non-conference calling and audio sharing

states” (Op. Br. at 23) by requiring that the “wireless non-call conferencing” be “initiated, conducted, and completed without inclusion of a remote participant.” “Seamless switching” is disclosed in the specification, and there is no suggestion in the intrinsic evidence that it should be excluded from the scope of claim 32. *See* ‘250 Pat. at 2:4-12, 8:57-65, 9:24-30, and 9:49-55. The Court also finds that Plaintiff’s proposed construction is too broad because it does not exclude a remote participant.

11. Construction of “Equalized Audio Output”

Term	Plaintiff’s Proposal	Defendants’ Proposal
“equalized audio output” Claim 32	“an audio output created from audio inputs that have had the amplitude of their frequencies adjusted”	“an audio output created from audio inputs that each have had their frequency spectrum adjusted to a desired shape to emphasize or deemphasize certain portions of the frequency spectrum”

The Court finds that **“equalized audio output” means “an audio output signal that has had its low frequency and high frequency components adjusted to boost or cut bass and treble effects.”**

Plaintiff argues that the specification “equates an equalized output with one that has been amplified and/or deamplified (*i.e.*, its amplitude has been adjusted to be made similar to other outputs).” (Op. Br. at 17.) Defendants contend that the specification offers little indication of what “equalized” means. (Resp. Br. at 20.) Defendants argue that their construction is supported by an extrinsic dictionary definition of an “equalizer”:

Equalizer, Equalization An equalizer, contrary to what its name implies, alters or distorts the relative strength of certain FREQUENCY ranges of an audio SIGNAL. In a sense, it should probably be called an “unequalizer.” However, the first equalizers were used to make the energy at all frequencies equal, or to achieve “flat response,” in telephone lines, and this is where the term originated. Another early use of equalizers was in the motion picture sound industry, where they were used to improve intelligibility in film sound tracks. Later on, equalizers were found

useful for creating special sound effects in the early days of radio and movies, where they are extensively used to this day

The first consumer-type equalizers were the tone controls on radios, the first one of which was simply a variable low-pass filter to reduce “static” and other high-frequency noise. The familiar BASS and TREBLE tone controls came later. . . .

An equalizer can boost or attenuate a certain frequency band, but in common usage, *equalize* means to boost. The preferred terminology for the actual process is boost/cut rather than equalize/attenuate.

Glenn D. White & Gary J. Louie, *The Audio Dictionary* 139 (3d ed. 2005), Dkt. No. 98-9.

Although not apparent from the parties’ claim construction briefs, the parties’ Notice of Most Important Claim Terms explains that the central dispute is (1) whether only the audio output must be equalized (Plaintiff’s position), or (2) whether each audio input must be separately equalized (Defendants’ position). (Dkt No. 100 at 2-3.) The Court finds that the claim language itself resolves this dispute. Claim 32 recites in relevant part:

an audio mixer . . . that receives an audio signal from an audio input from each of at least three audio interfaces, mixes and cleans the audio inputs, and provides an *equalized audio output* to each of the at least three audio interfaces

The only explicit requirement in claim 32 is that the audio mixer must provide an equalized audio output. The claim language does not require that the audio inputs be individually equalized first, and Defendants do not point to anything in the intrinsic record that supports adding this additional limitation.

Prior to the claim construction hearing, the Court indicated to the parties that it intended to construe this term to mean “an audio output signal that has had its low frequency and high frequency components adjusted to boost or cut bass and treble effects.” Neither party offered any objection to this construction at the hearing. Accordingly, the Court adopts its proposed construction as its final construction.

CONCLUSION

The Court adopts the above constructions. The parties are ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 22nd day of July, 2013.



ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE